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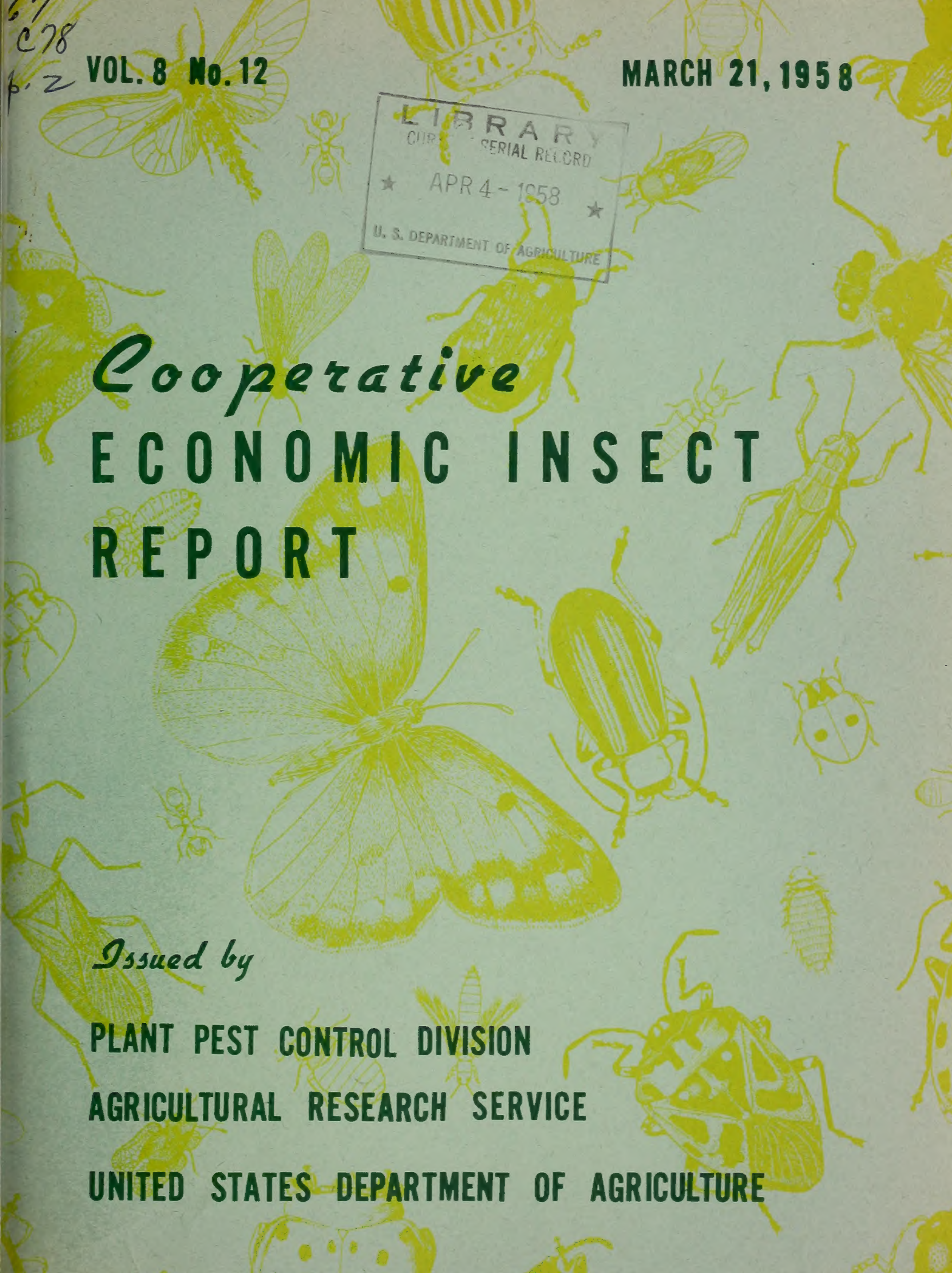

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 8 March 21, 1958 Number 12

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

SUGARCANE BORER loss estimates for 1957 in Louisiana and Florida. (p. 209).

ALFALFA WEEVIL active in North Carolina and Delaware. (p. 209).

Heavy winter carryover of PEAR PSYLLA in Chelan County, Washington, and reported for first time in El Dorado County, California. (p. 211).

SEED-CORN MAGGOT more abundant in Washington than in 1957. (p. 212).

BOLL WEEVIL winter survival survey in Louisiana. (p. 212).

STORAGE-GRAIN PEST survey in Oklahoma. (p. 213).

IMPORTED FIRE ANT found in new counties in Florida, Louisiana, South Carolina and Texas. (p. 214).

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SUMMARY OF INSECT CONDITIONS - 1957 - New Hampshire (p. 216), Arkansas (p. 217), Texas (p. 221), Ohio (p. 223).

Distribution of PEAR PSYLLA. (p. 228).

INSECTS not known to occur in the United States. (p. 229).

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Reports in this issue are for the week ending March 14, 1958 unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-MARCH TO MID-APRIL 1958

The Weather Bureau's 30-day outlook for mid-March to mid-April calls for temperatures to average below normal over the western half of the nation with greatest departures in the southwest quadrant. In the eastern half of the country temperatures are expected to undergo large week to week fluctuations but will average slightly above normal in New England, the upper Great Lakes Region and the extreme Southeast, but slightly below normal in the remaining area. Precipitation is expected to exceed normal over most of the nation except for near or slightly below normal amounts from the Appalachians eastward, in states bordering the Great Lakes and over the Pacific Northwest.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING MARCH 17

A fairly constant circulation pattern prevailed throughout the period. High pressure, with its main center over northern Canada, extended diagonally from east of the Divide into the Gulf States. Low pressure situations were mainly centered over California, southwest of the Texas Border, in the Gulf of Mexico, and east of New England. One low center in the Gulf intensified on Wednesday, and moved across the Southeastern States and up the Atlantic seaboard reaching the northern coast by the weekend. As a result of this storm, heavy snows fell on eastern portions of the central and southern Great Plains, eastward into the Ohio Valley, and along the coast from northern Virginia into New England. Snowfalls ranged up to 7 inches in Oklahoma, and a 6-inch fall was observed at Lubbock, Texas. In the Russel-Hill City area of Kansas, new falls of 5 to 7 inches brought ground depths up to as much as 18 inches. One-foot falls were common in eastern New York, and up to 2 feet fell in the central Catskills. New England, particularly southern and central, was hardest hit as a result of the gale force winds which accompanied the storm in that area. Snowfalls were as much as 20 inches in parts of northwestern Connecticut, traffic was interrupted, and widespread phone and power failures resulted.

A new storm which developed over central Texas late in the period brought heavy snows from the central Plains to Missouri on Monday, and rain across Georgia to the east coast with snow to the north by Tuesday morning. Weekly precipitation totals were moderate to heavy in the above mentioned areas, also in California with the exception of the extreme north and the southwestern desert regions, and in central portions of Florida. In the latter State, weekly amounts exceeded 6 inches at several points along the west coast and in the Lake Okeechobee area. Precipitation was generally light in other areas, except for isolated locations. Cold weather prevailed in most sections of the country, and only in the extreme northeast portion of the Great Plains, the northern Lakes Region and New England were weekly temperatures above normal. In Kansas, where departures for the week were 10° to 18° below normal, Goodland reported the coldest week of this winter season. Just prior to the weekend, freezing temperatures extended into northern parts of the western Gulf States.On Monday morning the snow cover at lower elevations included mainly the Dakotas, Nebraska, Kansas, southwestern Missouri, the extreme northern Lakes region, western Pennsylvania, New York and New England. The Mississippi River was reported open to navigation at Winona, Minnesota, and LaCrosse, Wisconsin, on the 16th, and at Guttenberg, Iowa on the 15th. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - First statewide survey showed average of 0.85 borers per infested stalk. Winter mortality averaged 21.6 percent. (McCreary, Conrad). SOUTH DAKOTA - A check indicates an average of 84 percent survival of overwintering larvae in fields surveyed in Brookings County. (Hantsbarger).

GREENBUG (Toxoptera graminum) - NEW MEXICO - No infestations in grain fields in eastern area. (N. Mex. Coop. Rept.). TEXAS - Present on wheat February 23-28 in Castro, Deaf Smith and Parmer Counties. Infestation was light, 0-12 per linear foot, with 1 field in Parmer County having 20 per linear foot of row. Light infestation in 1 field in Taylor County. (Daniels). Medium infestation on volunteer oats in Kaufman and Rockwall Counties. (Hawkins, Randolph). A 25-acre field infested, with some spots showing severe damage, Brazos County. (Turney).

Sugarcane Borer Loss Estimates for 1957: LOUISIANA - Sugarcane borer infestation in Louisiana's sugarcane crop averaged 22 percent of the joints bored. The crop loss is estimated to be 16.5 percent. As the crop in this State had a value of about $46 million, the monetary loss amounted to approximately $7.5 million. The 1957 infestation may be compared with 14 percent in 1956, 24 in 1955, 20 in 1954, 28 in both 1953 and 1952, and an average of 22 for the 5-year period. FLORIDA - In Florida the infestation remained near the same low level. Around one percent of the joints were bored in the Okeechobee area and infestation in the Fellsmere area was the lowest in several years. Loss caused by the borer in Florida last year is estimated at about $500,000. (Ent. Res. Div. and States Coop.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Light infestation on oats in Rockwall and Hunt Counties. (Turney).

SAY STINK BUG (Chlorochroa sayi) - CALIFORNIA - Heavy infestations in barley in San Diego County. (Cal. Coop. Rept.).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Small numbers infesting barley in Hunt County. (Hawkins). Large infestations on small grains in Kaufman County. (Randolph).

ENGLISH GRAIN APHID (Macrosiphum granarium) - DELAWARE - Winged forms fairly common on early cereals in eastern Kent and central Sussex Counties. Few wingless forms present. (McCreary, Conrad).

ALFALFA WEEVIL (Hypera postica) - NORTH CAROLINA - Larval feeding observed in late January in northern Wake County and some fields now being severely damaged by one-half to two-thirds mature larvae. (Wells, Miller). Larvae infesting white clover in Union County. (Spyhalski, Farrier). VIRGINIA - No evidence of larvae hatching or adult activity. (Morris). DELAWARE - First-instar larvae fairly common on alfalfa in eastern Sussex County. Second-instar larvae less common. (McCreary, Conrad).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - CALIFORNIA - Local heavy infestation on clover in Orange County and heavy on alfalfa in Santa Paula area of Ventura County. (Cal. Coop. Rept.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Very abundant in an alfalfa field near Roswell, Chaves County. (N. Mex. Coop. Rept.).

PEA APHID (Macrosiphum pisi) - DELAWARE - Few wingless adults and nymphs noted in buds of alfalfa in eastern Sussex County. (McCreary, Conrad). TEXAS - Infestation on vetch averaged 12-15 per 100 sweeps in Kaufman County. (Randolph).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - Present in most fields in southern and eastern areas, but apparently not building up. (N. Mex. Coop. Rept.). TEXAS - Infestation light on alfalfa in Rockwall County (Hawkins) and in Burleson County (Randolph).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - TEXAS - Averaged 2-3 per 100 sweeps on alfalfa in Kaufman County. (Randolph).

SOYBEAN CYST NEMATODE (*Heterodera glycines*) - Three new infestations involving 390 acres, all outside present quarantined area, found in Mississippi County, ARKANSAS. In NORTH CAROLINA, an additional infested property of 195 acres found in Camden County. Inspections in Bolivar, Coahoma, Desoto, Panola, Sunflower, Tunica and Washington Counties, MISSISSIPPI, were negative. (PPC, Sou. Reg., Feb. Rept.). The mobile field crew in southwestern MISSOURI has completed soil sampling in 3 counties. Viable cysts were recovered from cotton gin trash at one of the Caruthersville, Missouri, gins. Twenty-one *Heterodera glycines* cysts were found in the flotsam of the material washed. Other cysts included *H. cacti* and *H. schachtii* were recovered from samples of trash from other gins. (PPC, Cent. Reg., Feb. Rept.).

FRUIT INSECTS

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) - FLORIDA - A total of 25,197 traps were in operation during February. Plans are to increase number to 34,000 in summer months. At close of February, it has been 94 days since last Mediterranean fruit fly was caught in State. Last aerial application of bait spray applied on Sneads Island and Manatee County, Florida, February 25. The last State quarantine restriction against the fly in Florida was lifted on this date. All areas had been previously released from Federal quarantine May 21, 1957. Two additional ground applications will be applied at weekly intervals at focal point of last infestation as added protection. (PPC, Sou. Reg., Feb. Rept.).

MEXICAN FRUIT FLY (*Anastrepha ludens*) - MEXICO - Inspections of 1,313 traps on 566 properties in Baja California and Sonora during February were negative. (PPC, Mex. Reg.). TEXAS - One adult female trapped in orchard in Hidalgo County on February 12, apparently without eggs. Only two Mexican fruit flies trapped this season compared with 87 for same period in 1957. Traps were taken out of operation in lower Rio Grande Valley at end of February. (PPC, Sou. Reg.).

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - MEXICO - Light infestations found on 17 new properties during Februaryin Tamaulipas, Nuevo Leon and Sonora. A heavy infestation was reported in much of city of Los Mochis, Sinaloa. Parasitism in city is extremely low. Parasites are controlling citrus blackfly well at Mazatalan, Sinaloa and in States of Jalisco and Nayarit. TEXAS - Limited inspection in Laredo, Webb County, was negative. (PPC, Sou. Reg., Feb. Rept.).

BLACK PEACH APHID (*Anuraphis persicae-niger*) - WASHINGTON - Heavy infestation on limbs of 2-year old peach trees near Sawyer, Yakima County, week of February 23. (Luce).

CITRUS WHITEFLY (*Dialeurodes citri*) - CALIFORNIA - Control work for 1958 completed March 10 with the spraying of 51 city blocks. Infestation covered 22 city blocks in Sacramento, Sacramento County. (Cal. Coop. Rept.).

GREEN PEACH APHID (*Myzus persicae*) - WASHINGTON - Eggs began hatching about January 31 on peach trees at Parker, Yakima County. (Hagel).

PEAR LEAF BLISTER MITE (*Eriophyes pyri*) - WASHINGTON - Oviposition observed in Wenatchee area, Chelan County. (Burts, March 4).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Heavy winter carryover in Wenatchee area, Chelan County. Oviposition observed on March 4. (Burts). CALIFORNIA -- Reported for first time from El Dorado County. A light infestation of eggs occurred in 5 out of 6 locations in both commercial orchards and on abandoned trees. (Cal. Coop. Rept.).

SAN JOSE SCALE (Aspidiotus perniciosus) - WASHINGTON - Causing severe damage on cherry trees in Wenatchee area and in other areas of Chelan County. Counts indicate 80 percent winter survival. (Anthon).

BURROWING NEMATODE (Radopholus similis) - FLORIDA - During February, 15 groves were found infested for first time. Total of 114 new groves found infested since July 1, 1957. Two ornamental nurseries and 2 other properties found infested furing February. (PPC, Sou. Reg.).

JAPANESE BEETLE (Popillia japonica) - Plans for treatments of infestations at East St. Louis and Sheldon, ILLINOIS, and Fort Madison, IOWA, are proceeding, with completion of operation scheduled in early March. In MICHIGAN 2,000 traps are to be used in Detroit area and 1,400 in the Grand Rapids area during the 1958 season. (PPC, Cent. Reg., Feb. Rept.).

TRUCK CROP INSECTS

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA - Fifteen new infestations found in St. Joseph, Tensas Parish during February. MISSISSIPPI - Four infestations found in Jefferson Davis County and four in George County. Surveys in Jones and Rankin Counties were negative during February. ALABAMA - Sixty properties in Geneva County, 14 in Conecuh County, and 11 in Mobile County, were released from quarantine during February. (PPC, Sou. Reg.).

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Light to moderate infestations on cabbage, turnips and collards in Colquitt, Thomas, Brooks and Cook Counties. (Johnson, March 11). CALIFORNIA - Light infestation on cabbage and cauliflower generally throughout Orange County with medium infestations in some areas. (Cal. Coop. Rept.).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - A summer viviparous form was found on turnip on February 21 at Union Gap, Yakima County. Viviparous forms survived the winter in very low numbers. (Schopp).

LESSER BULB FLY (Eumerus tuberculatus) - WASHINGTON - Large numbers overwintered as larvae in cull onion and had not pupated on February 20. (Woodworth). IDAHO - Maggots infesting overwintering onions in southwestern areas. (Scott).

ONION MAGGOT (Hylemya antiqua) - WASHINGTON - Caused heavy damage on winter onions during fall of 1957 in the Walla Walla and Pasco areas. Nearly all specimens were still pupating on February 20, and puparial counts indicated that this species was less abundant in the Walla Walla area, Walla Walla County, and more numerous in the Pasco area, Franklin County, than at same time in 1957. (Woodworth). IDAHO - First adults of season for southwestern area were collected February 20. Many larvae overwintered in onions in the field and had pupated by February 20: (Scott).

PAINTED-LADY (Vanessa cardui) - CALIFORNIA - Heavy populations in old mustard and broccoli planting in Santa Barbara County. (Cal. Coop. Rept.).

COWPEA WEEVIL (Callosobruchus maculatus) - CALIFORNIA - Heavily infesting peas in the Reedley area of Fresno County. (Cal. Coop. Rept.).

PEA APHID (*Macrosiphum pisi*) - WASHINGTON - Eggs hatching by January 27, almost 2 weeks earlier than usual in Walla Walla area, Walla Walla County. (Cook).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - WASHINGTON - Adults active February 20 in Walla Walla area and approximately 5 times as abundant as at same time in 1957. Damage to onions in this area has occurred in fields in which maggots were present at time of transplantation. (Woodworth).

TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) - OREGON - Overwintering numbers were moderate in or near raspberry fields in Linn County, March 9. Fields surveyed were those heavily infested in 1957. (Rosenstiel).

TOBACCO INSECTS

MOLE CRICKETS - GEORGIA - Light infestations on tobacco plant beds in Colquitt, Thomas, Brooks, Berrien, Coffee and Bacon Counties. (Johnson, March 12).

SPRINGTAILS - GEORGIA - Moderate infestations on tobacco plant beds in Bacon County. (Johnson, March 13).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Moderate infestations on tobacco plant beds in Colquitt, Berrien and Coffee Counties. (Johnson, March 12).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Light to moderate infestations on tobacco plant beds in Tift, Colquitt, Thomas, Brooks, Cook, Berrien, Coffee, Bacon, Appling, Tattnall and Candler Counties. (Johnson, March 12).

COTTON INSECTS

Boll Weevil Winter Survival Survey: LOUISIANA - Collections of surface woods trash February 24 to March 5 in the northeast area showed 2,260 weevils per acre in East Carroll, 1,856 in Madison and 323 in Tensas Parishes, with an average of 1,480 for the three parishes. Compared with the fall population of 8,043 per acre, this gives a winter survival of 18 percent. Although the winter survival is much lower than in 1956, the population is not much lower, due to the heavy fall population. (Smith et al.).

PINK BOLLWORM (*Pectinophora gossypiella*) - MEXICO - Inspections of gin trash and blooms in Culiacan, Sinaloa zone, were negative. Surface debris inspections in States of Tamaulipas, Nuevo Leon, Coahuila and Chihauhas indicate a very light carry-over compared with average of previous years. (PPC, Mex. Reg., Feb. Rept.). OKLAHOMA - Inspection of 3 lint cleaners on February 26 revealed 5 larvae in Tillman County. (Fed.-State PBW Comm.).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (*Trogoderma granarium*) - Inspections were conducted during February in 45 establishments in coastal areas of VIRGINIA, 55 over State of NEW JERSEY, and 4 in Philadelphia district of PENNSYLVANIA. All inspections negative. (PPC, East. Reg.). Seven inspections in TENNESSEE and 254 in TEXAS were negative. (PPC, Sou. Reg., Feb. Rept.). MEXICO - Eight new infestations found in Mexicali Valley of Baja California. (PPC, Mex. Reg.). Ninety-four bins were inspected in NEBRASKA, and 6 inspections were made in WISCONSIN. In addition, one inspection was made in INDIANA, and one in MINNESOTA. All inspections in central region were negative. (PPC, Cent. Reg., Feb. Rept.).

Stored-grain Pest Survey, Oklahoma: Inspection of 25 feed and seed establishments in north central part of the State showed RICE WEEVIL heavy in 1, light in 2; PEA WEEVIL severe in 4, light in 5; COWPEA WEEVIL severe in 1; LESSER GRAIN BORER severe in 1, heavy in 1; RED FLOUR BEETLE heavy in 1, light in 1; SAW-TOOTHED GRAIN BEETLE heavy in 1; CADELLE light in 1, occasional in 3; DERMESTIDS heavy in 1, light in 9, moderate in 1, occasional in 2; YELLOW MEALWORM moderate in 1, light in 2, occasional in 1; INDIAN-MEAL MOTH severe in 1, heavy in 2, moderate in 3, light in 7. No pests were found in 1 mill. Grains inspected included milo, kafir, hegari, rye, oats, corn, millet, flax, lespedeza, fescue, ryegrass, rape vetch, cowpeas, mixed peas, Austrain winter peas, mungbeans, and Bermuda and Sudan grasses. (Coppock, Hatfield).

BLACK CARPET BEETLE (Attagenus piceus) - ALABAMA - Infesting powdered milk in Montgomery County. Det. H.G. Scott. (CDC Ent. Mus.).

INDIAN-MEAL MOTH (Plodia interpunctella) - DELAWARE - Collected in cereal products in New Castle County. (McCreary, Conrad).

LESSER GRAIN BORER (Rhyzopertha dominica) - OREGON - Found in 2 grain elevators the week of March 9 in Malheur County. (Chinn).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (Porthetria dispar) - NEW YORK - No new egg clusters found during February at 31 trap sites on Long Island where males attracted during summer of 1957. No infestations found in Poughkeepsie district during February. Scouting results in NEW JERSEY continued negative. (PPC, East. Reg.).

TURPENTINE BEETLES (Dendroctonus spp.) - TEXAS - Active in Houston, Trinity and Orange Counties. (Gaines).

A PINE RED MITE (Oligonychus milleri) - CALIFORNIA - Heavy infestation on pine trees in Maricopa, Kern County. (Cal. Coop. Rept.).

FLORIDA WAX SCALE (Ceroplastes floridensis) - VIRGINIA - Medium to heavy on holly plants at Langley Air Force Base. (Amos).

FORBES SCALE (Aspidiotus forbesi) - VIRGINIA - Heavy on holly plants in Capitol Square, Richmond. Det. H. Morrison. (Miller, February 18).

OLEANDER SCALE (Aspidiotus hederae) - CALIFORNIA - Infestation heavy on Colorado spruce at Menlo Park in San Mateo County and medium on rhododendrons at Saratoga in Santa Clara County. (Cal. Coop. Rept.).

PAINTED-LADY (Vanessa cardui) - CALIFORNIA - Heavy on malva in the Niland area of Imperial County and general in the Mettler area of Kern County. (Cal. Coop. Rept.).

ROSE APHID (Macrosiphum rosae) - WASHINGTON - Colonies increasing on developing rose shoots at Sumner, Pierce County. (Doucette, February 18).

SAY STINK BUG (Chlorochroa sayi) - CALIFORNIA - Heavy infestations on sand verbena reported from Imperial County. (Cal. Coop. Rept.).

SLUGS - WASHINGTON - Unusually mild temperatures and wet weather encouraging slug activity in western areas. Emerging shoots of lilies, delphinium and other perennials are being extensively damaged. (Doucette).

A TIP MOTH - TEXAS - Adults emerging in Nacogdoches County and all counties to the south. (Gaines).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - VIRGINIA - Averaged 15 plus per control animal in a herd in Greene County March 6. Of 7 taken, 4 were *H. bovis* and 3 were *H. lineatum*. (Rowell, Turner). Average per control animal in a herd in Russell County was 16 plus on March 14. Of 19 taken, 16 were *H. bovis* and 3 *H. lineatum*. (Turner, Rowell, Morris). Three *H. bovis* were received from Fluvanna County and 6 *H. bovis* and 1 *H. lineatum* from Spottsylvania County. (Turner, Smith, Kash). SOUTH DAKOTA - Counts on untreated cattle in Meade County showed an average of 13 grubs per head on 103 calves, 7 per head on 11 heifers and 4 per head on 51 cows. (Lofgren).

MOSQUITOES - CALIFORNIA - First-brood *Aedes vexans* present in standing water from recent heavy rains. If heavy rains continue second and third-broods will be a high nuisance factor to communities this spring. *Culex tarsalis* and *Anopheles freeborni* larvae are present. Season is approximately 2 weeks early but use of larvicides and drainage promise good control for these 2 species. (Cal. Coop. Rept.).

BENEFICIAL INSECTS

PREDATORS - TEXAS - Lacewings and lady beetles numerous in small grain and vetch fields. (Randolph).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - Counties found infested for the first time during February, 1958, were Manatee County, FLORIDA; Assumption and Concordia Parishes, LOUISIANA; Spartanburg County, SOUTH CAROLINA; and Liberty and Henderson Counties, TEXAS. Harris and Smith Counties, TEXAS were reported reinfested during the month. (PPC, Sou. Reg., Feb. Rept.). Acres treated in eradication program to March 7, 1958 by States is as follows: Alabama, 12,340; Arkansas, 11,219; Florida, 3,525; Georgia, 53,978; Louisiana, 14,851; Mississippi, 3,456; North Carolina, 82; South Carolina, 212; Texas, 1,519. Total acres treated is 101,182. Treatment of infested acreage in Hardin, Henderson, Jasper, Jefferson and Smith Counties, Texas has begun. (PPC, Sou. Reg., Mar. 7).

ANTS - NEW MEXICO - Continue to be a nuisance in homes throughout State. (N. Mex. Coop. Rept.).

BOXELDER BUG (*Leptocoris trivittatus*) - DELAWARE - Specimens received from Kent and Sussex Counties. (McCreary, Conrad). UTAH - Activity diminished by return of cold weather. (Knowlton).

CARPET BEETLES - UTAH - Damaging carpets and woolen clothing in a home at Murray, Salt Lake County. (Knowlton).

CLOVER MITE (*Bryobia praetiosa* complex) - NEW MEXICO - Continue to be a nuisance in homes throughout State. (N. Mex. Coop. Rept.). UTAH - Activity diminished by return of cold weather. (Knowlton). TEXAS - Still entering homes in southwestern section of Amarillo, Potter County. (Russell).

EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) - NORTH CAROLINA - Heavy damage to bannisters of wooden bridge in Wake County. (Greene, Wray).

A TROPICAL SUBTERRANEAN TERMITE (*Coptotermes formosanus*) - CALIFORNIA - Found in a television cabinet in a home in Oakland, Alameda County, which was shipped from Hawaii. This is second report of this termite in the State. The cabinet was fumigated to eradicate the termites. (Cal. Coop. Rept.).

CORRECTIONS: CEIR 8(10):168 - CATTLE GRUBS - VIRGINIA - Should read ----- 33 percent H. *bovis*, ---- . CEIR 8(10):165 - AN APHID - OKLAHOMA - Should read (*Rhopalosiphum subterraneum*). CEIR 8(10):166 - CABBAGE LOOPER and GREEN PEACH APHID - CALIFORNIA - Should read ---- Capistrano area, *Orange* County.

ADDITIONAL NOTES

ALABAMA - WHITE GRUBS particularly abundant in some areas of sod in Lee County. HOG LICE were numerous in one herd of swine in Lee County. Processing of woods trash samples revealed larger numbers of a LADY BEETLE (*Coleomegilla fuscilabris*). No BOLL WEEVILS were found.

LIGHT TRAP COLLECTIONS

	Hel. zea	Pseud. unip.	Diat. cramb.	Laph. frug.	Agrot. yps.	Perid. marg.	Felt. subt.	Prod. ornith.
FLORIDA								
Monticello 3/12		8						
Quincy 3/10		10			2			
LOUISIANA								
Baton Rouge 3/8-13		7				5	5	1
Franklin 3/5-11		3			4	1	6	5
TEXAS								
Brownsville 2/16-21, 3/2-8	1	140		103	38	82	73	2
SOUTH CAROLINA (County)								
Charleston 3/10-16		13	2		5			1

SUMMARY OF INSECT CONDITIONS - 1957

NEW HAMPSHIRE

Prepared by J. G. Conklin

Highlights: The effects of the prolonged drought were especially noticeable on certain forest trees, particularly hemlock and fir, with some trees showing mortality and invasion by BARK BEETLES and BORERS. Deterioration of sugar maples, especially trees bordering highways, was especially noticeable. To some extent this reflects earlier attack by the BLEEDING CANKER FUNGUS, the effects of drought and apparently some effect from excessive salting of highways during the winter. Many trees are now being invaded by BORERS. An unusual outbreak of OAK CATERPILLARS involving three species, SPINY OAKWORM and RED-HUMPED OAKWORMS occurred in Carroll County. GYPSY MOTH was unusually scarce as a result chiefly of natural control factors. BIRCH LEAF MINER appeared much earlier in the season than normal. CUTWORMS were unusually troublesome in truck areas. The TWO-SPOTTED SPIDER MITE was unusually troublesome, apparently as a result of favorable weather conditions.

Cereal and Forage Insects: EUROPEAN CORN BORER (Pyrausta nubilalis) was moderately abundant and troublesome in untreated or poorly treated fields. STALK BORER (Papaipema nebris) was more troublesome than usual causing noticeable damage to corn and tomatoes.

Fruit Insects: PLUM CURCULIO (Conotrachelus nenuphar) was present in about usual numbers but was adequately controlled in commercial orchards. APPLE MAGGOT (Rhagoletis pomonella) was present in usual numbers with somewhat greater activity than normal in early August. CODLING MOTH (Carpocapsa pomonella) was not particularly troublesome in commercial orchards. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) was unusually troublesome late in the season. EYE-SPOTTED BUD MOTH (Spilonota ocellana) was present in about usual numbers with noticeable injury occurring only in poorly sprayed orchards. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) was the most abundant species in apple orchards, particularly after mid-summer, and caused especial damage in certain raspberry and strawberry plantings. BROWN-TAIL MOTH (Nygmia phaeorrhoea) was found to be building up in isolated spots which were largely eliminated by web removal. An ususual occurrence of PEAR LEAF BLISTER MITE (Eriophyes pyri) in a commercial Baldwin orchard was observed in Merrimack County.

Truck Crop Insects: For the second successive year MEXICAN BEAN BEETLE (Epilachna varivestis) was relatively scarce throughout the State. CUTWORMS were unusually active in June and early July. BLACK CUTWORM (Agrotis ypsilon), in particular, caused considerable damage to cucumbers and tomatoes. IMPORTED CABBAGEWORM (Pieris rapae) was present in about usual numbers but CABBAGE LOOPER (Trichoplusia ni) was much less troublesome than in 1956. CORN EARWORM (Heliothis zea) was less troublesome than in 1956.

Forest, Ornamental and Shade Tree Insects: ELM LEAF BEETLE (Galerucella xanthomelaena) continues to be a troublesome pest in communities where little or no attempts are made to spray for its control. Many complaints were received from housewives troubled with the overwintering beetles in early spring. An area of approximately 200 acres of oak woodland in Carroll County was defoliated from 50 to 100 percent by the activities of the SPINY OAKWORM (Anisota stigma), chiefly, although RED-HUMPED OAKWORMS (Symmerista spp.) were also present in modest numbers. An additional 200 acres showed defoliation somewhat less than 50 percent. A limited survey indicated that SPRUCE BUDWORM (Choristoneura fumiferana) was present in relatively small numbers on spruce and fir in Coos County. BIRCH LEAF MINER (Fenusa pusilla) adults appeared in Durham as early as May 5 which is much earlier than normal. TWIG PRUNER (Elaphidion villosum) was more prevalent than usual in oak stands in southern New Hampshire.

Miscellaneous Insects: Specimens of EUROPEAN EARWIG (Forficula auricularia) were received from several localities during the summer months. Complaints of TERMITES were received in about the usual numbers. An unusual infestation of a GRASS SCALE, tentatively identified as a COTTONY-GRASS SCALE (Eriopeltis festucae) occurred on native bent grasses in commercial orchards at Hollis and Durham.

SUMMARY OF INSECT CONDITIONS - 1957

ARKANSAS

Reported by W. P. Boyer

Highlights: Very heavy rainfall in 1957 had a direct effect on insect populations. Many stations reported 80 inches of rainfall, with 48-50 inches being normal. Heavy summer rainfall was very important in building up one of the worst BOLL WEEVIL infestations in many years. This same situation is no doubt important in the low number of GRASSHOPPERS in the summer of 1957 and the lower than average numbers of CHINCH BUG in hibernation in the fall. This condition could be one of the causes of fewer SPIDER MITES on cotton in 1957 than in 1956. The excessive rainfall coupled with cooler than normal temperatures contributed to heavier than normal infestations of COTTON APHID. Recovery of PINK BOLLWORM larvae was very minor compared to 1956. SOUTHWESTERN CORN BORER advanced eastward across the State, while EUROPEAN CORN BORER moved southward across Arkansas into Louisiana. IMPORTED FIRE ANT was fought on a concentrated basis in one area, and there is good evidence of successful eradication. Wet weather and other factors caused a decrease in SPOTTED ALFALFA APHID to the point that none have been found for several months. FALL ARMYWORM was early and more numerous and destructive than in any past year. A big increase in sorghum acreage has brought about the need for concentrated work on sorghum insects. NANTUCKET PINE MOTH and SAWFLIES caused concern as pests of timber. THREE-CORNERED ALFALFA HOPPER threatened to become a pest of soybeans in 1957.

Cereal and Forage Insects: SPOTTED ALFALFA APHID (Therioaphis maculata) was common on alfalfa in non-economic numbers throughout the State until mid-summer, but during the last half of the year could not be found. PEA APHID (Macrosiphum pisi) infestations in general were of non-economic importance though present during spring and fall. Infestations of THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) on alfalfa were more common than in 1956 and comparable to 1955. Losses have not been evaluated, but control would probably pay. This pest also attacked soybeans in 1957 with some stand reduction and lodging of large plants. BEAN LEAF BEETLE (Cerotoma trifurcata) numbers on soybeans continued to decline. GARDEN WEBWORM (Loxostege similalis) caused some damage to cotton and soybeans with control measures being applied in scattered areas. GRASSHOPPERS (Melanoplus spp.) were of no economic importance except in a very few cases along canal banks in the northeast. Damage was to cotton and soybeans. FALL ARMYWORM (Laphygma frugiperda) infestations were very severe throughout the year, appearing earlier than usual and remaining until cold weather. Damage occurred on corn and sorghum, both to the plant and grain. Some control measures were applied but past experience had shown that in most cases control did not pay. On the other hand the pest became more serious than expected, and it was apparent that losses resulted from lack of control. Other than fall armyworm, SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) and EUROPEAN CORN BORER (Pyrausta nubilalis) were the principal pests of corn. Southwestern corn borer continued its eastward advance, infesting 19 new counties for a total of 54 counties, 2 of which border the Mississippi River on the east. European corn borer continued its southward movement, infesting 16 new counties for a total of 51 counties. In eastern areas the pest crossed the State and moved on into Louisiana. Southwestern corn borer infestations are reaching an intensity that control measures are needed in most of the infested area. This is true for the European corn borer in northeastern Arkansas. CHINCH BUG (Blissus leucopterus) infestations were common in northeast regions but in general were not damaging. The number in hibernation in the fall of 1957 was much lower than in 1956. SUGARCANE BEETLE (Euetheola rugiceps) infestations in corn were much lighter in 1957 than in 1956. CORN LEAF APHID (Rhopalosiphum maidis) infestations on corn and sorghum were widespread and persistent throughout the year. No serious damage was apparent, yet evaluation of possible injury is difficult and little is known of good methods of evaluating damage.

Fruit Insects: Due to a late freeze in the spring of 1957 fruit was killed in northwest Arkansas. ORIENTAL FRUIT MOTH (Grapholitha molesta) infestations were light in eastern and absent in southwestern regions. PLUM CURCULIO (Conotrachelus nenuphar) infestations were light in both areas. GRAPE BERRY MOTH (Paralobesia viteana) infestations were above normal in northwest Arkansas. A LEAF ROLLER (Platynota flavedana) caused damage to peaches for the first time in southwest Arkansas.

Truck Crop Insects: IMPORTED CABBAGEWORM (Pieris rapae) and CABBAGE LOPPER (Trichoplusia ni) caused some trouble to commercial cabbage in east Arkansas due mainly to improper control measures. PICKLEWORM (Diaphania nitidalis) caused losses in squash in northeast areas. SOUTHERN GREEN STINK BUG (Nezara viridula) infested lima beans in southern counties.

Cotton Insects: THRIPS infestations were light on cotton in 1957 with very few cases of control being applied. COTTON FLEAHOPPER (Psallus seriatus) infestations varied over the State but were in general non-economic with control seldom practiced. COTTON APHID (Aphis gossypii) infestations were much heavier than 1956, with over half the fields in the State becoming economically infested after August 10. Control was combined with other insects but resistance to certain insecticides presented problems. COTTON LEAFWORM (Alabama argillacea) infestations started early and were much heavier than in many years. Little trouble in control occurred as insecticides were being applied regularly for other insects. CABBAGE LOOPER (Trichoplusia ni) was lighter than 1956. Fewer fields were infested with BOLLWORM (Heliothis sp.) in 1957 than 1956. Predators and parasites kept this pest under control in early season while regular insecticide applications controlled it in infested fields in late season. BOLL WEEVIL (Anthonomus grandis) infestations were heaviest in many years during late season and reflected type of weather and timing of cotton planting. Excessive spring rains resulted in a small amount of early cotton. The bulk of the crop was planted later than normal with a small amount planted extremely late. Early season infestations were confined mainly to the early planted cotton. In all sections of the State except the hill sections, medium and late planted cotton was relatively free of high weevil infestations until second generation emergence in late July and early August, depending on latitude. Summer rains were favorable to weevil development and infestations soared very high and rapidly after mid-August. A comparison of weekly average infestations in 1956 and 1957 based on percentage of punctured squares is given in Table 1. The figures on infestation are based on reports from 79 scouts in 23 counties in 1957 and 55 scouts in 17 counties in 1956. Rainfall is based on the average of 15 stations in the cotton growing area.

Table 1. - Boll weevil infestation based on percent punctured squares in fields distributed over 23 counties in 1957 and 17 counties in 1956.

	June			July					August				September	
	10	17	24	1	8	15	22	29	5	12	19	26	2	9
1957														
Infest.	----	4.2	2.2	3.6	4.9	5.5	7.8	11.4	15.1	21.2	36.6	34.9	33.3	33.0
Precpt.	1.12	1.00	.87	1.37	.05	.88	.88	2.16	.29	2.42	.16	.03	1.00	1.31
1956														
Infest.	0.24	6.1	6.9	7.1	7.1	9.2	12.4	17.2	20.9	26.8	29.4	26.8	25.5	26.8
Prespt.	0.2	2.4	.39	.14	.98	.09	1.2	.6	.06	.35	.90	.03	1.51	0.0

Table 2 shows a comparison between 1956 and 1957 in the percentage of fields infested by both boll weevil and bollworm. This table shows the light early weevil infestations, the widespread late weevil infestations, and the lower bollworm infestations in 1957 than 1956.

Table 2. - Percentage of cotton fields infested with boll weevils and bollworms in 17 cotton growing counties in Arkansas in 1956 and 23 counties in 1957.

	June			July					August			
	10	17	24	1	8	15	22	29	5	12	19	26
							(BOLL WEEVIL)					
1957	--	18	26	43	59	67	78	81	89	93	98	100
1956	28	30	51	70	68	82	85	86	92	88	94	89
							(BOLLWORM)					
1957	--	8	16	19	21	28	37	42	44	60	55	36
1956	48	23	19	31	40	46	58	62	61	57	61	63

Table 3 shows a comparison of the two years of aphid infestation.

Table 3. - Percentage of cotton fields infested with aphids in 17 cotton growing counties in Arkansas in 1956 and 23 counties in 1957.

	June			July					August			
	10	17	24	1	8	15	22	29	5	12	19	26
1957	--	20	17	11	12	17	13	35	47	61	59	64
1956	--	4	2	1	1	5	2	7	17	16	21	46

Spider mite infestations were much lower in 1957 than in 1956. This no doubt was influenced by the heavy rainfall in 1957. This comparison is shown in Table 4.

Table 4. - Percentage of cotton fields infested with spider mites in 17 counties in Arkansas in 1956 and 23 counties in 1957.

	June			July					August			
	10	17	24	1	8	15	22	29	5	12	19	26
1957	--	.12	0	0	0	0.2	0.2	1.0	1.7	5.2	8.4	15.1
1956	--	0.4	1.8	3.2	2.5	4.9	7.8	19.0	18.3	39.8	30.6	47.4

PINK BOLLWORM (Pectinophora gossypiella) infestations in 1957 were much below the 1956 level based on the number of larvae recovered from gin trash samples. In 1956 a total of 194 larvae were collected from 10,460 bushels of gin trash from 50 counties, through November. In 1957 only one larva was found in 19,003 bushels of gin trash from 51 counties through November. One additional larva was found in December 1957.

Forest, Ornamental, and Shade Tree Insects: ELM LEAF BEETLE (Galerucella xanthomelaena) caused sporadic damage to elm trees in several towns in the west. NANTUCKET PINE MOTH (Rhyacionia frustrana) infested young stands of loblolly pine in several locations in south Arkansas. BARK BEETLE (Ips spp.) infestations remained about the same as in 1956. BLACK TURPENTINE BEETLE (Dendroctonus terebrans) infestations were about the same in both years. A BLACK-HEADED SAWFLY (Neodiprion fabricii) infested areas in south central Arkansas with some defoliation in late 1957.

Stored Grain Insects: There was little change in the pattern regarding stored grain insects. SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) remained the principal pest of stored grain. LESSER GRAIN BORER (Rhyzopertha dominica), RICE WEEVIL (Sitophilus oryza), ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) continued to be important stored grain pests.

Beneficial Insects: Several species of beneficial insects played an important role, especially in holding down numbers of aphids and Heliothis species in cotton, corn, and sorghum. These were a BIG-EYED BUG (Geocoris punctipes), insidious flower bug (Orius insidiosus), LACEWINGS (Chrysopa spp.), and LADY BEETLES (Hippodamia spp.). These beneficial species were abundant on cotton in early season and no doubt played an important part, especially in holding down bollworm infestations.

Miscellaneous Insects: VETCH BRUCHID (Bruchus brachialis) infestations were fairly heavy on vetch in some areas. Losses were not evaluated but were low due to the small amount of vetch seed production in the State. IMPORTED FIRE ANT (Solenopsis saevissima richteri) infestation in Union County was apparently eradicated in the treated area. Fire ants are being found in small numbers in fringe areas around the treated areas.

Outlook for 1958 - The heavy BOLL WEEVIL infestation in 1957 along with late rains and lush green cotton for a good food supply provided ideal conditions for a large number of weevils to go into hibernation. Trash sampling indicates a large number of weevils are in hibernation. Cold weather up to early January has not been severe enough to destroy very many weevils in hibernation. Unless colder than normal weather occurs the remainder of the winter, a large number of weevils will be on hand at the time of emergence. Heavy infestations in 1958 are expected unless dry weather holds them down. Infestations of weevils in north Arkansas are expected to continue to get worse unless weather conditions give a setback to the pest. Indications are that there should be little trouble from GRASSHOPPERS in 1958. CHINCH BUG infestations should be lighter in 1958. FALL ARMYWORM infestations cannot be predicted as this species overwinters far south of here. Little trouble is expected from the SPOTTED ALFALFA APHID until drier weather occurs. It is anticipated that the EUROPEAN CORN BORER and the SOUTHWESTERN CORN BORER both will spread to new areas, increase in intensity, and possibly attack new hosts.

SUMMARY OF INSECT CONDITIONS - 1957*

TEXAS

Texas Cooperative Insect Survey

Highlights: IMPORTED FIRE ANT infested six southeast counties as of November 1, 1957. Overwintering POTATO PSYLLID populations were the heaviest in many years. BOLLWORM, CABBAGE LOOPER and COTTON LEAFWORM infestations were heavy on cotton in most areas of the State. COTTON FLEAHOPPER caused extensive damage to cotton. RICE STINK BUG populations were heavy on rice.

Cereal and Forage Insects: Infestations of WINTER GRAIN MITE (*Penthaleus major*) were medium to heavy in north central counties, especially in fields that had been planted to small grains for several years. BROWN WHEAT MITE (*Petrobia latens*) occurred in the north central regions, but no economic damage was reported. GREENBUG (*Toxoptera graminum*) infestations ranged from light to heavy in some of the panhandle counties. The heavy populations occurred in isolated fields late in the season. No economic damage occurred in north central Texas. Early fall infestations were observed on volunteer wheat south of Amarillo. CUTWORMS (*Agrotis ypsilon*, *Chorizagrotis auxiliaris*, and *Peridroma margaritosa*) and ARMYWORM (*Pseudaletia unipuncta*) caused considerable damage to vetch and small grain in north central part of the State. In late spring fields with 10-30 larvae per square foot were not uncommon. SPOTTED ALFALFA APHID (*Therioaphis maculata*) did not cause as much damage during 1957 as in 1956. Early spring rains helped keep populations below destructive levels. CORN EARWORM (*Heliothis zea*) severely damaged grain sorghum in coastal bend, central and south plains areas and damaged corn and alfalfa throughout the growing season. SORGHUM WEBWORM (*Celama sorghiella*) heavily damaged grain sorghum over most of the State. In several fields infestations ranged up to 15 larvae per head. FALL ARMYWORM (*Laphygma frugiperda*) caused heavy damage to corn in the Brazos River Valley area as well as damage to alfalfa, pastures, lawns and small grains. A disease helped to control one brood during August. GRASSHOPPERS (several spp.) occurred over much of the State. The infestation ranged from light to severe over 4,282,000 acres. About 50,000 acres of rangeland were treated for control.

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) infestations extended as far south as Freestone, Cherokee, Anderson and Houston Counties, but were generally light. Light to heavy RICE WATER WEEVIL (*Lissorhoptrus orysophilus*) populations occurred on rice early in the growing season. RICE STINK BUG (*Oebalus pugnax*) infestations were the heaviest in several years. Some fields required several treatments to bring the insect under control. A survey of the rice fields during the growing season failed to disclose the presence of *Sogata* sp. or *Hortensia similis* which have been associated with the transmission of the *hoja blanca* disease of rice.

Fruit Insects: PLUM CURCULIO (*Conotrachelus nenuphar*) and CATFACING INSECT infestations were light to medium with little damage resulting. PEACH TREE BORER (*Sanninoidea exitiosa*) and LESSER PEACH TREE BORER (*Synanthedon pictipes*) were generally light in east Texas. PECAN NUT CASEBEARER (*Acrobasis caryae*) was light to medium in most pecan-growing areas. PEACH TWIG BORER (*Anarsia lineatella*) caused heavy damage in central Texas. DRIED-FRUIT BEETLE (*Carpophilus hemipterus*) populations were generally light.

Truck Crop Insects: CORN EARWORM (*Heliothis zea*) caused damage throughout 1957 to sweet corn, tomatoes, and other vegetable crops. CABBAGE LOOPER (*Trichoplusia ni*) caused damage to lettuce, cabbage, cauliflower and turnips in the vegetable-growing area of the State. BEET LEAFHOPPER (Circulifer tenellus) was present on spinach in winter garden area, but little damage resulted. ONION THRIPS (Thrips tabaci) occurred in light to moderate infestations on onions. Spotted local infestations of the following insects occurred in various parts of the State: APHIDS, PEPPER WEEVIL, COWPEA CURCULIO, GRASSHOPPERS, FALL ARMYWORM, TOMATO PINWORM, BLISTER BEETLES, SQUASH BUG, LEAFHOPPERS, BEET ARMYWORM, DIAMONDBACK MOTH, FLEA BEETLES, FALSE CHINCH BUGS, CUTWORMS, STINK BUGS, HARLEQUIN BUG, SPIDER MITES, THRIPS, FALSE WIREWORM, MELONWORM, DARKLING BEETLES and SWEETPOTATO WEEVIL. Overwintering populations of POTATO PSYLLID (Paratrioza cockerelli) were the largest since 1946. MELON APHID (Aphis gossypii) infestations were heavy on watermelons in central Texas. SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) caused severe damage to seedling watermelons in central Texas.

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*Nov. 1, 1956 to Nov. 1, 1957

Cotton Insects: THRIPS (Frankliniella sp.) infestations were generally light over the State. COTTON FLEAHOPPER (Psallus seriatus) infestations appeared early and continued until August with largest infestations occurring in the lower Rio Grande Valley and along the coastal bend areas. Reports of 300 nymphs and adults per 100 terminals were common early in the season. Fleahopper emergence in overwintering tests were high at Waco. Fleahoppers were present on the south plains, but were not a major problem. COTTON APHID (Aphis gossypii) infestations were spotted and light. No economic outbreaks were reported. BOLL WEEVIL (Anthonomus grandis) hibernation studies indicated a very high overwintering population, however, this population failed to develop into a major outbreak. Several fields in the lower Rio Grande Valley had high populations in July. Infestations elsewhere were kept under control. Boll weevils were reported difficult to control with the chlorinated hydrocarbon insecticides in Robertson and Brazos Counties; however, where phosphate insecticides were used they were easily controlled. BOLLWORMS (Heliothis zea) appeared in mid-June and developed into a problem in the coastal bend area and in some areas of central Texas by mid-July. Some fields in the south plains also received insecticidal treatment for bollworm control. CABBAGE LOOPER (Trichoplusia ni) appeared early and continued through the season, especially on the south, central and coastal plains areas. Scattered infestations were all over the State, but were not too serious. First reports of COTTON LEAFWORM (Alabama argillacea) were received from Cameron and Calhoun Counties on June 10. One month later leafworms were reported on the south plains and along the Red River Valley. SPIDER MITES were generally light with a few heavy infestations occurring on cotton in the central area. PINK BOLLWORM (Pectinophora gossypiella) infestations were as large in some fields in the lower Rio Grande Valley as in 1952, however, there was no general infestation over the valley. There were light infestations in the coastal bend, upper coastal and in counties next to Louisiana. Early infestations in the central Black Lands did not develop into economic infestations. In the El Paso Valley area it was reported that the infestation was lighter in 1957 than in 1956. In the plains area it was generally light. Unfavorable weather conditions delayed harvest and fall clean up, and this might give ideal overwintering quarters for the pink bollworm. WHITE FLIES were extremely heavy on cotton in west central and west Cross Timbers areas. Other insects, namely, STINK BUGS, GRASSHOPPERS, GARDEN WEBWORM, LYGUS BUGS, BROWN COTTON LEAFWORM, CUTWORMS, and COTTON SQUARE BORERS were reported feeding on cotton in the State.

Forest, Ornamental and Shade Tree Insects: SOUTHERN PINE BEETLE (Dendroctonus frontalis) infested pine in the southern part of Hardin County. IPS BEETLES were reported infesting pines in east Texas early in the year. TEXAS LEAF-CUTTING ANT (Atta texana) damaged pine seedlings throughout east Texas. TURPENTINE BEETLES (Dendroctonus spp.) damaged pine timber throughout southeast Texas. TIP MOTH infestations were reported to be largest in several years in east Texas. RED-HEADED PINE SAWFLY (Neodiprion lecontei) caused partial defoliation of young pine plantings in east Texas. BAGWORMS (Thyridopteryx ephemeraeformis) caused damage to ornamental and shade trees in central Texas. Other insects occurring on shade trees and ornamental plants were GALL INSECTS, MEALYBUGS, APHIDS, PSOCIDS, SPIDER MITES, WOOD BORERS, FALL WEBWORM and SCALE INSECTS.

Stored Grain Insects: As the production of grain sorghum is increased the stored grain insect problem increases in importance. The major stored grain insect pests are RICE WEEVIL, ANGOUMOIS GRAIN MOTH, RICE MOTH, INDIAN-MEAL MOTH, LESSER GRAIN BORER and BRAN BEETLES (including FLAT GRAIN BEETLE, CONFUSED FLOUR BEETLE and SAW-TOOTHED GRAIN BEETLE). VETCH BRUCHID (Bruchus brachialis) continued to do damage to vetch in the north central part of the State.

Insects Affecting Man and Animals: CATTLE GRUBS (Hypoderma spp.) continued to cause losses although infestation was fairly light. SCREW-WORM (Callitroga hominivorax) infestations were heavy in all areas of the State and were the worst in several years. BROWN DOG TICK (Rhipicephalus sanguineus) infestations were heavy, especially on dogs in central Texas. HOUSE FLY (Musca domestica) populations were more numerous in 1957 than in 1956. MOSQUITOES (several species) were extremely numerous over most of the State due partly to the above normal rain fall. Other insects such as ROACHES, SILVERFISH, TERMITES, CLOTHES MOTHS and FLEAS continued to be pests in and around homes. A TERMITE (Kalotermes approximatus) was reported for the first time in this State in 1957. It was collected in a home in Waco, McLennan County.

Miscellaneous Insects: To November 1, 1957 IMPORTED FIRE ANT (Solenopsis saevissima var. richteri) has been reported in Orange, Jasper, Newton, Jefferson, Tyler and Hardin Counties. The swarming of TEXAS LEAF-CUTTING ANT (Atta texana) queens was the largest in many years. TEXAS HARVESTER ANT (Pogonomyrmex barbatus v. molefaciens) continued to cause damage over most of the State.

SUMMARY OF INSECT CONDITIONS - 1957

OHIO

Submitted by C. R. Neiswander

Highlights: Following a milder than average winter of 1956-1957 a number of insect species were more abundant than usual in the 1957 season. CORN EARWORM (Heliothis zea) and FALL ARMYWORM (Laphygma frugiperda) were particularly abundant on late corn. Likewise, on sweet corn the incidence of Stewart's disease, the organism of which is transmitted by the CORN FLEA BEETLE (Chaetocnema pulicaria) was somewhat greater than usual. CABBAGE LOOPER (Trichoplusia ni) caused severe damage on celery. CORN LEAF APHID (Rhopalosiphum maidis) was particularly abundant over the northern half of the State, in some cases resulting in as many as 50 percent barren stalks. EUROPEAN CORN BORER (Pyrausta nubilalis), on the other hand, was at a low ebb and caused relatively light damage to field corn.

Cereal and Forage Crop Insects (C. R. Weaver): POTATO LEAFHOPPER (Empoasca fabae) damaged second-cutting alfalfa severely and built up its numbers so that in many cases third-cutting alfalfa was completely destroyed. Estimated damage was 15 percent on second-cutting and 40 percent on third-cutting ($9,750,000). MEADOW SPITTLEBUG (Philaenus leucophthalmus) infestations ran 1 to 7 nymphs per stem. In general, populations were much higher than in 1956 - northeast, central, and southwest central again having the largest infestation. First cutting alfalfa and red clover loss was estimated at 7 percent ($5,400,000).

Fall populations of adults were much larger than in 1956 (CEIR 7(43):836), promising the most severe infestation ever to be encountered in Ohio for 1958. LESSER CLOVER LEAF WEEVIL (*Hypera nigrirostris*) continued to be prevalent in all red clover sampled. An average of 0.5 to 2.3 buds per stem were damaged. Estimated loss to first-cutting red clover was 4 percent ($1,600,000). CLOVER ROOT BORER (*Hylastinus obscurus*) populations remained low after being delayed by unfavorable spring weather. Estimated damage to second-cutting red clover was 3 percent ($750,000). PEA APHID (*Macrosiphum pisi*) maintained fair populations in spring and fall but failed to build up to epidemic numbers. No estimate of damage was made. SPOTTED ALFALFA APHID (*Therioaphis maculata*) appeared in southwestern Ohio counties in October. This was the first report of the aphid's appearance in the State. No damage was reported (CEIR 7(46):874).

Corn Insects (C. A. Triplehorn): EUROPEAN CORN BORER (*Pyrausta nubilalis*) had the lowest population in field corn of any year since 1946. The average number of larvae per 100 plants was 35.1 as compared with 53.3 in 1956. The estimated damage in Ohio was $1,462,850 based on a yield reduction of 2 percent per borer per plant. CORN LEAF APHID (*Rhopalosiphum maidis*) was unusually abundant and caused severe damage to corn over the northern half of the State. In some areas the infestation was accompanied by a severe summer drought and yields were reduced by more than 50 percent by the two factors. CORN EARWORM (*Heliothis zea*) caused little damage to field corn but damage to late sweet corn was severe, particularly in the southern part of the State. FALL ARMYWORM (*Laphygma frugiperda*) which seldom causes damage in Ohio was abundant in late corn. Although a severely damaged field was observed as far north as Wooster, most of the injury occurred in the southern part of the State.

Apple Insects (C. R. Cutright): EUROPEAN RED MITE (*Panonychus ulmi*) was the most severe pest of the season. It was abundant in all sections of Ohio and adequate control was difficult to maintain in many orchards. Only one severe infestation of TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) was called to attention this season. CODLING MOTH (*Carpocapsa pomonella*) was a minor pest in most Ohio orchards in 1957. PLUM CURCULIO (*Conotrachelus nenuphar*) injury was more noticeable than usual but not severe except in poorly sprayed orchards. APPLE APHID (*Aphis pomi*) was more abundant than usual, especially in northeastern Ohio. ROSY APPLE APHID (*Anuraphis roseus*) was not a problem in 1957 and no control data were secured. WOOLLY APPLE APHID (*Eriosoma lanigerum*) was noticeable but not a problem. APPLE MAGGOT (*Rhagoletis pomonella*) was severe in poorly sprayed or unsprayed orchards. Populations of RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) were high in early season, but infestation was spotty at harvest and generally less severe than in 1956. LEAF MINERS (*Callisto* spp.) were not as noticeable as in 1956.

Estimated Loss Due Directly to Apple Pests on Sprayed and Unsprayed Trees: Estimates of loss are made by the following method. According to the census report of 1955 for Ohio, the total number of apple trees in the State was 1,530,000. Of this number 295,000 were non-bearing trees leaving 1,235,000 producing trees. There are no available figures on the number of trees in commercial production, but the estimated commercial crop for 1957 was 3,200,000 bushels. Horticulturists estimate that the average yield per commercial tree is between 7 and 8 bushels. If 7 is divided into 3,200,000 this would mean approximately 450,000 trees in commercial production. Subtracting 450,000 from 1,235,000 would leave 785,000 trees of the neglected or non-commercial type. Due to the ravages of insects and disease, these trees produce at only 2 to 5 percent their capacity, or let us be conservative and say that insects and disease deprive every tree owner of 5 bushels of apples per tree per year. Five times the number of non-commercial trees or 785,000 means a loss of 3,925,000 bushels per year. Half of this loss can be charged to insects and the remainder to disease, or 1,962,000 bushels lost due to insects. To this must be added the loss to the commercial crop which was incurred in spite of control measures. From records taken by entomologists and observations by growers this is conservatively estimated at 3 percent or 96,000 bushels. Add 1,962,000 and 96,000 and the total loss is 2,058,000 bushels of apples in Ohio for 1957. If these were worth only $1.00 per bushel, the money loss is very great. This is charged to the different apple insects as follows:

Codling moth..............	$ 700,000
Orchard mites.............	100,000
Plum curculio.............	700,000
Red-banded leaf roller....	50,000
Apple maggot..............	400,000
Aphids....................	50,000
Others....................	58,000
Total....................	$2,058,000

Cost of Insect and Mite Control: The Ohio crop of 1957 was estimated at 3,200,000 bushels. The estimated cost of insect and mite control is 25 cents per bushel or $800,000. This is apportioned as follows:

Codling moth......................	$ 400,000
Orchard mites.....................	175,000
Plum curculio.....................	75,000
Red-banded leaf roller............	75,000
Apple maggot......................	50,000
Aphids............................	15,000
Others............................	10,000
Total control costs..............	$ 800,000
Total direct loss due to insects..	2,058,000
Total.........................	$2,858,000

Stone Fruit Insects (Roy W. Rings): The catfacing complex of insects caused more injury to peaches than any other single insect or group of insect pests. TARNISHED PLANT BUGS (*Lygus lineolarius*) were more troublesome in 1957 than in previous years. OAK PLANT BUGS (*Neolygus omnivagus* and *N. quercalbae*) and HICKORY PLANT BUGS (*N. caryae*) were less abundant than in 1956. In general, STINK BUGS (*Acrosternum hilare*, *Euschistus servus*, *E. tristigmus* and *E. variolarius*) caused less injury than in 1955 or 1956. PLUM CURCULIO (*Conotrachelus nenuphar*) populations were light in regularly sprayed orchards but caused severe damage in unsprayed plantings. ORIENTAL FRUIT MOTH (*Grapholitha molesta*) twig and fruit injury was very light in commercial orchards. Both EUROPEAN RED MITE (*Panonychus ulmi*) and TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) were troublesome in orchards where preventive control programs were not used. This was apparently due to the development of resistance of mites to early season schedules of parathion and EPN. PEACH TREE BORER (*Sanninoidea exitiosa*) has not been troublesome in orchards receiving trunk sprays of DDT but the LESSER PEACH TREE BORER (*Synanthedon pictipes*) was more frequently reported as a pest than in previous years.

Vegetable Crop Insects (J. P. Sleesman): Populations of the IMPORTED CABBAGEWORM (*Pieris rapae*) were average on most cole crops. CABBAGE LOOPER (*Trichoplusia ni*) populations were above normal and sporadic outbreaks of importance occurred on celery, potatoes, and turnips. POTATO LEAFHOPPER (*Empoasca fabae*) was unusually abundant on unsprayed potatoes where they caused the yield to be reduced by more than one-half. POTATO FLEA BEETLE (*Epitrix cucumeris*) populations were about normal. POTATO APHID (*Macrosiphum solanifolii*) infestations were general over the State and populations were considerably above normal. Infestations of TOMATO FRUITWORM (*Heliothis zea*) and *Drosophila* spp. were light, both in fresh market and canning tomatoes. MEXICAN BEAN BEETLE (*Epilachna varivestis*) was above normal in abundance in southern Ohio but of little importance in the northern part of the State. ASTER YELLOWS DISEASE in carrots and lettuce was severe in most truck-growing areas of the State and some fields, especially of lettuce, were a total loss. Populations of SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons), vector of aster yellows virus, were unusually high throughout the northern part of the State. TWO-SPOTTED SPIDER MITE (Tetranychus telarius), STRIPED CUCUMBER BEETLE (Acalymma vittata), SEED-CORN MAGGOT (Hylemya cilicrura) and CABBAGE MAGGOT (Hylemya brassicae) populations were of about average importance. Various species of SLUGS were unusually abundant due to the wet weather.

Turf Insects (J. B. Polivka): JAPANESE BEETLE (Popillia japonica) grub population averaged 4 larvae more per square foot than in 1956. Heaviest infestations were found in southeastern and east central Ohio except in the Steubenville area. Grub population was lower than usual in the northeastern section. NORTHERN MASKED CHAFER (Cyclocephala borealis) and JUNE BEETLES (Phyllophaga spp.) caused considerable turf damage. GREEN JUNE BEETLE (Cotinis nitida), CHINCH BUGS, CUTWORMS and WEBWORMS were of little importance. MOLES presented a great problem to many home owners because of the grubs.

Forest, Ornamental and Shade Tree Insects (R. B. Neiswander): Four species of mites were included among the 10 pests recorded most often by the state nursery inspectors during 1957. These were SPRUCE SPIDER MITE (Oligonychus ununguis), TWO-SPOTTED SPIDER MITE (Tetranychus telarius), TIP DWARF MITE (Eriophyes thujae), and MAPLE BLADDER GALL MITE (Vasates quadripedes). AZALEA MITE (Vasates atlantazaleae) also occurred commonly but was recorded less frequently than in 1956. The insects recorded most often were GRAPE MEALYBUG (Pseudococcus maritimus) on Taxus, BAGWORMS (Thyridopteryx ephemeraeformis), EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana), JUNIPER SCALE (Diaspis carueli), and OYSTERSHELL SCALE (Lepidosaphes ulmi). IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) and ELM LEAF BEETLE (Galerucella xanthomelaena) were more abundant than usual on shade trees. EUROPEAN PINE SAWFLY (Neodiprion sertifer) caused damage in an occasional Christmas tree and forest planting. APHIDS were unusually abundant in pine plantings.

Household Insects (Roy W. Rings): The most important household insect problem in 1957 involved the EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes). Reports of infestations were received from many areas. Numerous requests were also received on control of BLACK CARPENTER ANT (Camponotus herculeanus pennsylvanicus). BLACK CARPET BEETLE (Attagenus piceus) was frequently reported to be destructive in residences although other species of dermestids also caused damage. CLOVER MITES (Bryobia praetiosa) were less troublesome as compared with 1955 and 1956. Numerous reports of CLUSTER FLY (Pollenia rudis) invasions of homes were received. A HACKBERRY PSYLLID (Pachypsylla celtidis-vesicula) was quite troublesome in the Cincinnati area in residences in the vicinity of hackberry trees. A VINEGAR FLY (Drosophila melanogaster) was abundant in the Wooster and Akron areas and invaded groceries, supermarkets, and other food handling establishments. BED BUGS (Cimex lectularius) were encountered but once in 1957. CAT FLEA (Ctenocephalides felis) was reported occasionally from the northeastern part of the State.

Prevalence of Insects in Ohio in 1957 (D. Lyle Goleman):

Abundant

- Spittlebug
- European red mite
- Ants
- Millipedes
- Corn leaf aphid
- Potato leafhopper
- Horse flies

Above Normal

- Boxelder bug
- Clover mite
- Red-banded leaf roller
- Bagworms
- Japanese beetle
- Elm leaf beetle
- Apple aphids
- Tent caterpillars
- Plum curculio
- Corn flea beetle
- Clover root borer
- Chiggers
- Grain weevils
- Termites
- Apple maggot
- Fruit flies
- Nitidulid beetles
- Two-spotted mite
- European pine shoot moth
- Corn earworm
- Stable flies
- Cankerworms
- Fall armyworm
- Mosquitoes
- Cockroaches

Normal

- Sweetclover weevil
- Southern June beetle
- Pine sawfly
- European corn borer
- Armyworm
- Crickets
- Hessian fly
- Cutworms
- Corn silk beetles
- Grasshoppers
- Apple leafhopper
- Oriental fruit moth
- Willow aphid
- Clover bud weevil
- Clover leaf weevil
- Cabbageworms
- Potato flea beetle
- Hackberry psyllids
- Powder post beetle
- Grape berry moth
- Mexican bean beetle
- Blue bottle flies
- Asparagus beetle
- Lygus bugs
- Horn flies
- Cherry fruit fly
- Carpet beetles
- Clothes moths
- Cattle grubs
- Rose-slugs
- White grubs
- Fleas
- Wireworms
- House flies
- Cucumber beetles
- Peach tree borers
- Slugs
- Tomato aphid

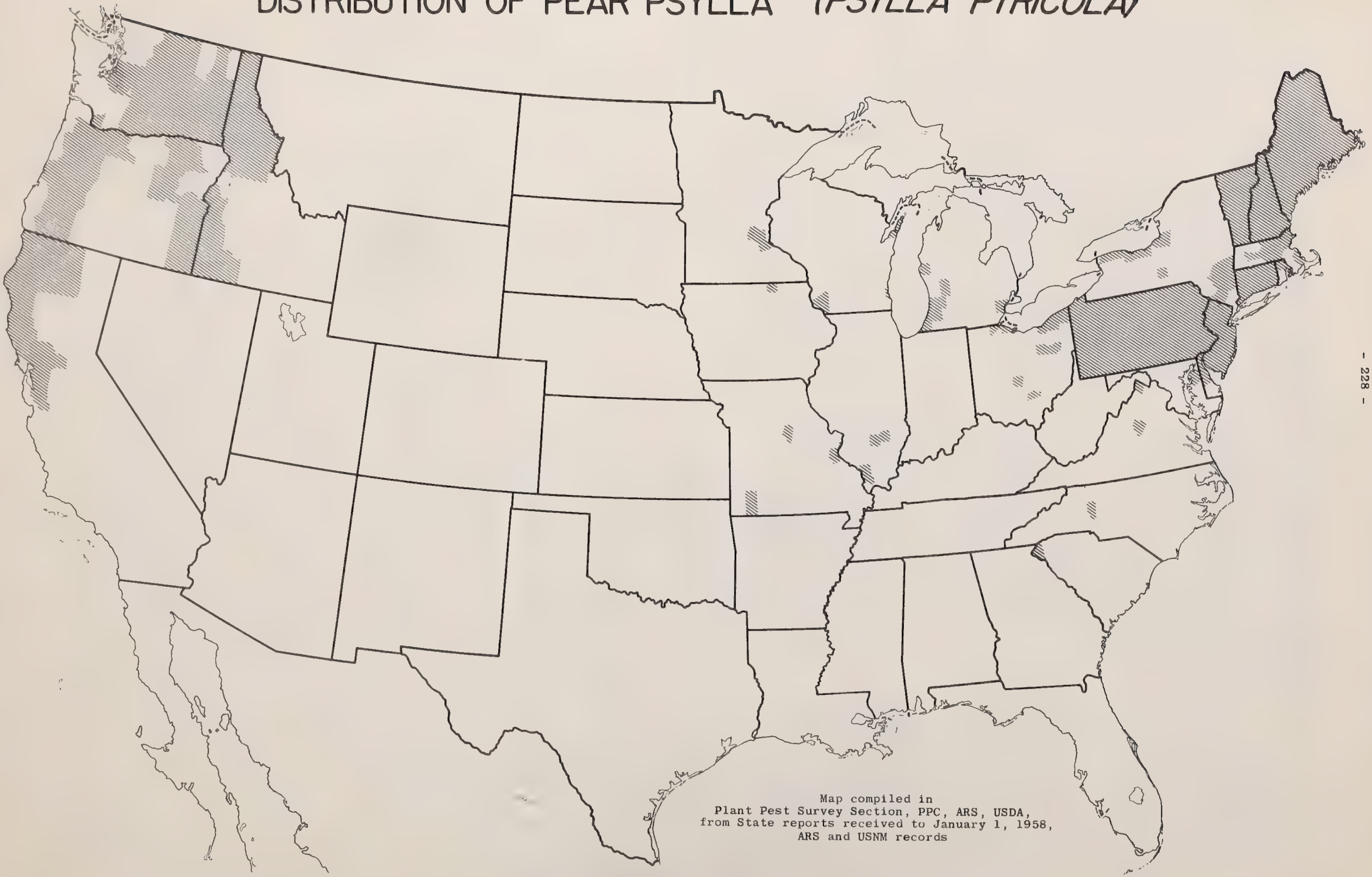
Below Normal

- Pea aphid
- Angoumois grain moth
- Walnut datana
- Oat thrips
- San Jose scale
- Cattle lice
- Rose thrips
- Hornworms
- Seed-corn maggot
- Blister beetles
- Rose chafer
- Colorado potato beetle
- Cabbage maggot
- Apple flea weevil
- Corn rootworm
- Pear-slug
- Cluster flies

Scarce

- Chinch bug
- Wheat jointworm
- Black cherry aphid
- Spotted alfalfa aphid

DISTRIBUTION OF PEAR PSYLLA *(PSYLLA PYRICOLA)*

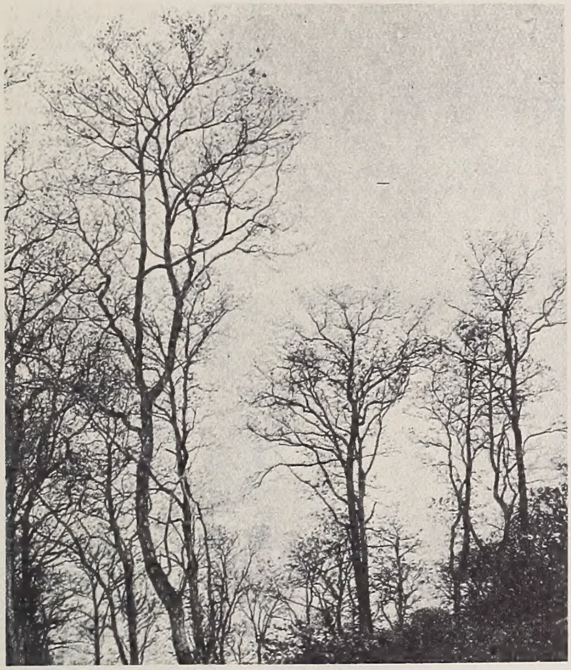


Map compiled in
Plant Pest Survey Section, PPC, ARS, USDA,
from State reports received to January 1, 1958,
ARS and USNM records

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

GREEN OAK TORTRIX* (Tortrix viridana L.)

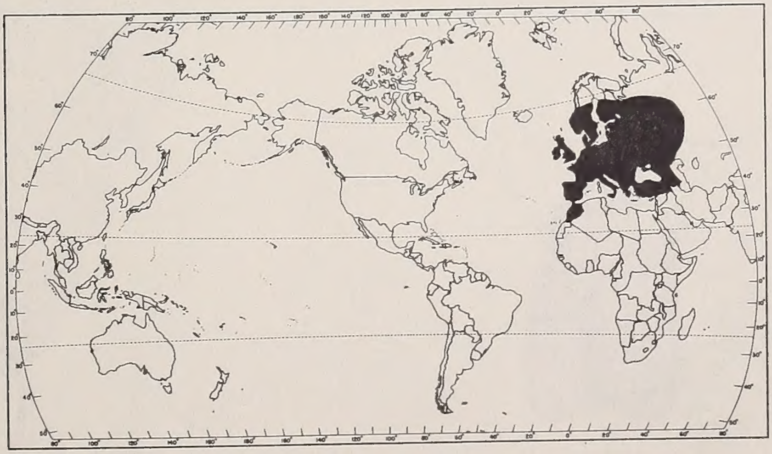
Economic Importance: This defoliator is a serious pest of oak forests in Europe, often requiring widespread control measures. It has been called the most injurious lepidopterous pest of oak in the United Kingdom and is possibly the worst forestry pest in southern Europe due to the importance of its attack on the cork oak forests and the hog-feed forests of the Iberian Peninsula. Complete defoliation may occur in severe outbreaks. Repeated defoliations cause die-back and weaken the trees, predisposing them to attacks by fungi and other destructive agents.



Defoliated Oaks with
Undamaged Beech Undergrowth

Distribution: Reported to occur throughout Europe. Also Turkey and Morocco.

Hosts: Principal host plants are species of oak. May also attack beech, linden, maple, and other trees.



General Distribution of Green Oak Tortrix

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* Also called green oak roller moth and oak leaf roller (Tortricidae, Lepidoptera).

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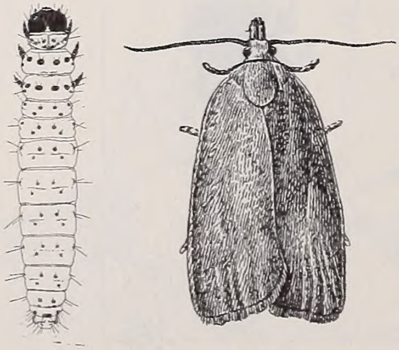
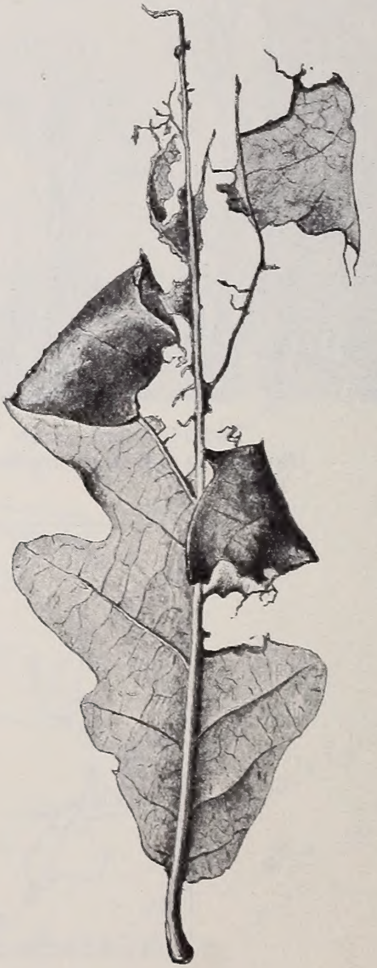
Life History and Habits: Under conditions in the British Isles, moths are in flight in June and July. Eggs are laid in pairs, or small groups, on buds and young twigs, and are very difficult to see being of general appearance of the bark surface. Overwintering occurs in egg stage with larvae appearing in May. The young caterpillars begin feeding on the foliage when it is still in the bud stage. The flowers are also attacked. The larvae skeletonize and spin the leaves together. At a later stage they roll the leaves in a characteristic manner, the upper side outwards. Pupation takes place in late May or June (usually June) within, or partially within, a folded leaf. This moth is usually a pest of older woods although it sometimes spreads to younger stands. Tops of trees are generally attacked first.

Description: Adult expanse about 18 mm. Forewings bright green, hindwings grayish; both pairs with slight fringe of whitish scales around margins. Larva about 12 mm., greenish-gray above, green below, with black tubercles and brownish-black head. Pupa black. Eggs very small, circular and flat. (Prepared in Plant Pest Survey Section in cooperation with other ARS agencies.) CEIR 8(12) 3-21-58



Larva and Adult of
Tortrix viridana



Characteristic Leaf Rolling

Figures (except map) from Boas, J. E. V. 1924. Dansk Forstzoologi. 761 pp., Copenhagen.